

REMARKS/ARGUMENTS

Favorable reconsideration of this application in view of the above amendments, and in light of the following discussion, is respectfully requested.

Claims 1-20 are pending. Claims 1, 5, 7, and 15 are amended, and Claims 16-20 are newly submitted. No new matter is introduced.¹

In the Office Action, Claims 1 and 7-11 were rejected under 35 U.S.C. § 103(a) as unpatentable over Steuer (U.S. Patent No. 4,350,491) and Friedmann (U.S. Patent No. 5,201,687); Claims 1-6 and 15 were rejected under 35 U.S.C. § 103(a) as unpatentable over Kapaan (U.S. Patent No. 6,689,000); and Claims 12-14 were rejected under 35 U.S.C. § 103(a) as unpatentable over Steuer in view of Friedmann and Fritzer (U.S. Patent No. 6,786,844).

Claim 1 recites to a belt type continuously variable transmission that includes two pulley shafts, a movable sheave on each pulley shaft, and a fixed sheave arranged on each pulley shaft so as to face the moveable sheave on each pulley shaft. Amended Claim 1 further recites that one of the movable sheaves is provided with a motor being rotatable in normal and reverse directions to drive the one of the movable sheaves in an axial direction of a pulley shaft of the one of the moveable sheaves. Claim 1 recites that the motor is provided in a hollow portion of the one of the moveable sheaves, that is located opposite the groove. Furthermore, amended Claim 1 recites that the *motor includes an outer rotor that is integrated the one of the movable sheaves.*

Turning to the applied references, the Office Action acknowledges Steuer fails to disclose or suggest a motor that is rotatable in forward and reverse directions.² The Office

¹ Support for the amended and newly submitted claims can be found in the claims as previously filed and at least at paragraph [0059] of the specification as originally filed, for example.

Action then applies Friedmann, stating “Friedmann discloses a continuously variable transmission with hydraulically adjustable sheaves in which a hydraulic pump (20) of a piston or vane type in order to provide a specified pressure to move movable sheave (1a) toward or away fixed sheave (1b) by either moving the piston inward or outward or rotating the piston in a forward or reverse direction in order to increase or decrease the pressure.”³

However, amended Claim 1 recites that the motor includes an *outer rotor* that is *integrated with the one of the moveable sheaves*. By contrast, Friedmann describes that (emphasis added) ‘hydrostatic gear pump 20 which is installed directly in the power train between the prime mover PM and the input member I. The pump 20 acts as a hydrostatic clutch and is installed in such a way that its housing 20a can rotate with the input member I.’⁴ Thus, as can be seen in Figure 1, *the housing* of the pump 20 is integrally assembled with the input member I (a shaft driven by the Prime Mover)⁵, whereas amended Claim 1 recites an *outer rotor* that is *integrated with the moveable sheave*. An input shaft member is not equivalent to a moveable sheave. For example, the outer rotor of amended Claim 1 can rotate relative to the pulley shaft. Whereas, the hydrostatic gear pump of Friedman rotates directly with the input member. Thus, Friedmann fails to disclose or suggest all of the features of amended Claim 1.

Kapaan fails cure the deficiencies in the combination of Steuer and Friedmann.

Figure 1 of Kapaan illustrates a continuously variable transmission including a fixed disc 1, a slideable disc 2, and a groove 5.⁶ Kapaan also states “upon changing the width of the groove 5 however, the motor 23 is activated in such a away that the rotor 22 is rotated with

² See the Office Action at page 3, lines 11-12.

³ See the Office Action at page 3, lines 13-17.

⁴ See Friedmann, at col. 7, lines 3-5.

⁵ See Friedmann, at col. 5, lines 16-19.

⁶ See Kapaan at col. 2, lines 48-52.

respect to stator 24... thus mak(ing) the disc 2 move towards or from the disc 1.”⁷ As can be seen by Figure 1, stator 24 is attached to stator housing 29.⁸ Kapaan also states that the “the motor housing 29 is stationary.”⁹

However, amended Claim 1 further recites the motor includes an *outer rotor* that is *integrated with the one of the moveable sheaves*. By comparison, Kapaan illustrates a stator fixed to a stationary housing. An outer rotor integrated to a moveable sheave is not equivalent to a stator fixed to stationary housing. For example, an outer rotor can rotate relative to the moveable sheave whereas a stator by definition is stationary. Thus, Kapaan fails to disclose or suggest all of the features of amended Claim 1. Fritzer was applied for teachings other than the claimed motor, and fails to cure the deficiencies in Kapaan, Steuer, or Friedmann.

Accordingly, even the combined teachings of Kapaan, Steuer, Friedmann and Fritzer fail to disclose or suggest all of the features of amended Claim 1. It is submitted Claim 1 and the claims depending therefrom are in condition for allowance.

Claim 15 recites a belt type continuously variable transmission that includes two pulley shafts, a movable sheave on each pulley shaft, a fixed sheave arranged on each pulley shaft, and a motor integrally provided with one of the movable sheaves and capable of driving the movable sheave. The motor is rotatable in normal and reverse directions to drive the one of the movable sheaves. Amended Claim 15 further recites that the motor includes an inner rotor that is integrally assembled with a pulley shaft of the one of the moveable sheaves. Furthermore, amended Claim 15 recites an *outer rotor* that generates a driving force

⁷ See Kapaan at col. 3, lines 34-40.

⁸ See Kapaan at col. 3, line 25.

⁹ See Kapaan at col. 3, lines 29-30.

that drives the one of the moveable sheaves in the axial direction of the pulley shaft *by rotating relative to the inner rotor*

Claim 15 was rejected based on Kapaan. As described above, none of cited references disclose or suggest a motor including *an outer rotor that generates a driving force by rotating relative to the inner rotor*. Accordingly, even the combined teachings of Kapaan, Steuer, Friedmann and Fritzer fail to disclose or suggest all of the features of amended Claim 15. It is submitted Claim 15 is in condition for allowance.

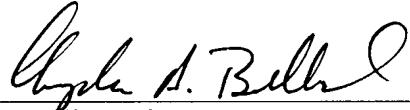
New Claims 16-20 depend from Claim 15 and recite additional features that are not disclosed or rendered obvious by the cited references. As discussed in detail above, it is respectfully submitted that Claim 15 is allowable. Therefore Claims 16-20 are also allowable for at least the same reasons as Claim 1, from which they depend.

For the reasons discussed above, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. Therefore, a Notice of Allowance for Claims 1-20 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants' undersigned representative at the below listed telephone number.

Respectfully submitted,

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